Editorial: Presumed ocular histoplasma syndrome

Histoplasmosis results from infection by *Histoplasma capsulatum*, and the disease is usually characterized by an acute benign self-limiting pulmonary illness which may be so mild as to pass unnoticed (Schwarz, 1971). The infection is acquired by animals and man by inhalation of spores. The organism proliferates in the local lymph nodes and the yeast form is disseminated in the blood stream (Procknow, Connolly, and Ray, 1962; Schwarz, 1971). The disease results in calcified lesions in the lung and previous infection can be detected by a skin reaction to histoplasmin, and by serological tests. A world-wide survey of the prevalence of histoplasmin skin sensitivity showed a striking regional distribution of the disease (Edwards and Billings, 1971). In the Ohio and Mississippi river basins, there is a very high prevalence of infection by *H. capsulatum* and it has been shown that in some communities in this region up to 90 per cent. of the population have a positive skin reaction to histoplasmin (Furcolow, 1956). By contrast, less than 2 per cent. of the population of the United Kingdom have a positive skin reaction (Edwards and Billings, 1971).

Though haemorrhagic macular lesions were described in association with histoplasmosis as early as 1942 (Reid, Scherer, Herbut, and Irving, 1942) and a relationship between uveitis and previous infection by *H. capsulatum* had been suggested by several authors (Day, 1949; Krause and Hopkins, 1951; Schlaegel, 1958), the syndrome of presumed ocular histoplasmosis was first defined by Woods and Wahlen (1959). They described disciform lesions at the macula accompanied by well circumscribed peripheral chorioretinal scars, and the syndrome was subsequently rendered more specific by excluding inflammatory signs in the aqueous and vitreous humour (Van Metre and Maumenee, 1964) and by including peripapillary pigment epithelial atrophy (Schlaegel and Kenney, 1966). The importance of presumed ocular histoplasma syndrome has become evident in the last decade. It is a common disease in North America (Gass, 1967), occurs in the young, and carries the risk of bilateral central visual loss.

However, the actiological relationship between *H. capsulatum* infection and the ocular syndrome has not been proven beyond doubt. The organism has not been demonstrated histopathologically in human disciform lesions (Gass, 1967). The fungus has been identified in an eye with purulent endophthalmitis (Hoefnagels and Pijpers, 1967), and in peripheral choroidoretinal granulomas (Klintworth, Hollingsworth, Lusman, and Bradford, 1973). However, both these patients had disseminated and fatal histoplasmosis and the organism was isolated from many organs. The nature of the disease precludes isolation of the organism from presumed ocular histoplasmosis ante mortem.

Evidence from animal experiments has been inconclusive. Many of the early experiments involved intraocular injection (Day, 1949; Smith and Jones, 1962; Smith and Singer, 1964a,b,c; Smith, Singer, Goldwyn, Kulvin, and Pinnas, 1964; Sethi and Schwarz, 1965a,b; Schwarz, Sethi, and George, 1967; Agarwal, Sethi, Mohapatara, and Khosla, 1971; Agarwal, Seth, Khosla, and Mohapatara, 1971) and later intravenous injection (Salfelder, Schwarz, and Akbary, 1965) and intracarotid injection (Smith, O'Connor, Halde, Scalarone, and Easterbrook, 1973) of the yeast form. Uveitis, and in particular peripheral focal choroiditis, was produced by these means (Smith and Singer, 1964a; Smith and others, 1973) but the disease differed from the ocular syndrome in man, since in each case there was considerable endophthalmitis accompanying the disease and macular disciform lesions did not occur. Wong, Kwon, Green, Anderson, and Collins (1972) simulated the human disease more accurately in man by intracarotid injection of spores, although again only peripheral lesions were produced. These lesions affected...
both eyes symmetrically with only mild and local inflammatory changes in the overlying vitreous.

The best evidence relating *H. capsulatum* infection to Presumed Ocular Histoplasmosis Syndrome is epidemiological (Woods and Wahlen, 1959; Van Metre and Maumenee, 1964; Asbury, 1966). Reports concerning the Presumed Ocular Histoplasma Syndrome have come almost exclusively from North America where *H. capsulatum* is common. The initial studies showing high incidence of positive skin reactivity to histoplasmin in young patients with disciform macular disease were open to criticism in that such patients were referred to large centres from communities with endemic *H. capsulatum* infection. In a community survey high correlation was shown between the presence of atrophic lesions in the peripheral fundus and positive skin tests (Smith and Ganley, 1972), although only one patient had a disciform macular lesion and 59 per cent. of the whole population surveyed had positive skin tests. Moreover, a previous study failed to reveal Presumed Ocular Histoplasma Syndrome in a community with endemic *H. capsulatum* infection (Spaeth, 1967).

Contrary to the implications in a recent report (Ellis and Schlaegel, 1973), disease identical morphologically to Presumed Ocular Histoplasmosis does occur in the United Kingdom, and is not rare (Braunstein, Rosen, and Bird, 1974). The patients studied, unlike those in previous reports, were not drawn from a community with endemic histoplasmosis, and evidence of previous *H. capsulatum* infection was found in them. While these results do not preclude *H. capsulatum* as a cause of Presumed Ocular Histoplasmosis, they certainly indicate that other aetiological agents can produce this pattern of ocular fundus disease.

References


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transilluminator. The horizontal ridging on two surfaces of the cannula permits orientation of the probe tip in the dark. Fundus lesions may therefore be powerfully illuminated by either instrument.

**Advantages**

Because of the design of the probe only a small conjunctival incision is required to provide access to lesions located at the posterior pole, and since this instrument can be sterilized the risk of introducing infection into the orbit is minimized.

Transillumination is of value in locating large choroidal vessels when selecting a site for draining subretinal fluid in cases of retinal detachment requiring this procedure, and the ease with which the probe may be resterilized, together with a supply of prepacked light guides, permits the instrument to be used as frequently as required.

We wish to acknowledge the aid of Mr. A. E. Christmas, late Head of the Instrument Department, Bristol United Hospitals, in making up the prototype instrument, and Hamblin Instruments Ltd. for advice and for agreeing to manufacture the probe and reducing sleeve. We also wish to thank the Medical Illustration Unit of the United Bristol Hospitals for the production of illustrations and Mrs. D. Archer for secretarial help.

**References**


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**Errata**

Editorial November issue, vol. 58, p. 890, 1.19:

_for 'chlorio-retinal' read 'chorio-retinal'_

p. 891 1.3:

_for 'Histoplasm' read 'Histoplasma'_

1.20:

_for 'and evidence of previous *H. capsulatum* infection' read 'and no evidence . . . ' _